NEW HAMPSHIRE WATER SUPPLY AND POLLUTION CONTROL COMMISSION

LAKE TROPHIC DATA

MORPHOMETRIC:

LAKE	Darrah Pond	LAKE AREA (HA)	7.00
TOWN	Litchfield	MAXIMUM DEPTH (M)	8.2
COUNTY	Hillsborough	MEAN DEPTH (M)	3.4
RIVER BASIN	Merrimack	VOLUME (M^3)	239,000
LATITUDE	42° 50'N	MUD SURFACE AREA (HA)	7.02
LONGITUDE	71° 27'W	RELATIVE DEPTH	2.8
ELEVATION (FT)	178	SHORE CONFIGURATION	~ 1
SHORE LENGTH (M)	800	AREAL WATER LOAD (M/YR)	3.80
WATERSHED AREA (HA)	57.0	FLUSHING RATE (YR^{-1})	1.1
% WATERSHED PONDED	0%	PHOSPHORUS RETENTION COEFF.	0.71

BIOLOGICAL: DATE	28 FEB 1986	5 AUG 1985
DOM. PHYTOPLANKTON (% total) 1	Dinobryon (99%)	Dinobryon (70%)
2		
NUMBER OF ALGAL GENERA	3	5
SPECIES DIVERSITY		1.36
CHLOROPHYLL a (µg/L)		1.58
DOM. ZOOPLANKTON (% total) 1	Nauplii larvae (65%)	Nauplii larvae (65%)
2	Calanoid copepod (25%)	Calanoid copepod (30%)
ROTIFERS/LITER	2	< 1
MICROCRUSTACEA/LITER	118	113
TOTAL ZOOPLANK. CNTS (cells/L)	135	113
VASCULAR PLANT ABUNDANCE		Common
DOMINANT VASCULAR PLANTS 1		Eriocaulon
2		Nymphoides
3		Nymphaea
SECCHI DISK TRANSPARENCY (M)		7.6 VOB
BOTTOM DISS. OXYGEN (mg/L)	11.4	7.2
SEDIMENT: % ORGANIC MATTER		

LAKE TYPE: A natural pond.

SUMMER THERMAL STRATIFICATION: YES ____ NO X WEAK ____

IF YES, VOLUME OF HYPOLIMNION _____ (m^3) THERMOCLINE DEPTH _____ (m)

CHEMICAL: (mg/L unless indicated otherwise) LAKE: Darrah Pond

	WINTER		SUMMER		
DATE	28 FEB 1986		5 AUG 1985		
DEPTH (M)	1.0	3.0	3.0	6.0	
pH (UNITS)	4.5	4.5	4.5	4.5	
ALKALINITY (I. P.)	-1.6	-1.7	-1.3	-1.4	
ALKALINITY (F.E.P.)	0.0	0.0	< 0.1	0.0	
NITRITE+NITRATE NITROGEN			< 0.05	< 0.05	
TOTAL KJELDAHL NITROGEN			0.23	0.48	
TOTAL PHOSPHORUS	0.006	0.004	0.011	0.025	
SPEC. CONDUCT. (μMhos/cm)	35.2	35.9	27.0	27.3	
APPARENT COLOR (UNITS)	10	5	< 5	5	
TRUE COLOR (440 nm)(UNITS)	NR	NR	< 1	< 1	
MAGNESIUM			0.24		
CALCIUM			0.7		
SODIUM			1		
POTASSIUM			0.5		
CHLORIDE			3	< 2	
TN : TP			21	19	
INORG-N : INORG-P					
[Mg+Ca] : [Na+K]			0.63		
CALCITE SATURATION INDEX			~ 9.0		

* = NOT DEFENSIBLE NR = NO RESULT

TROPHIC CLASSIFICATION: 1985

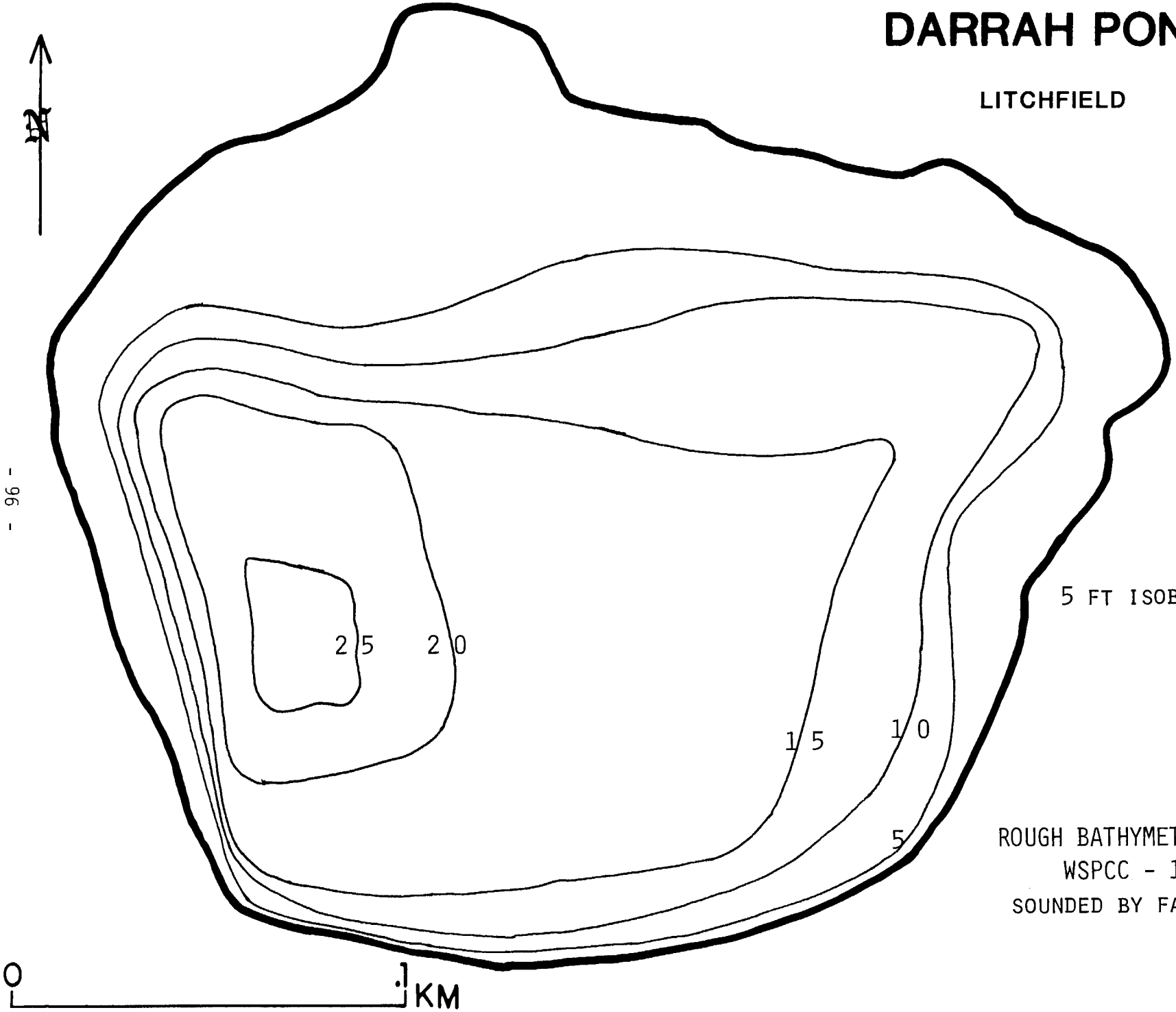
	D.O.	S.D.	PLANT ABUND.	CHL a	TOTAL PTS.	TROPHIC CLASS.
CLASSIFICATION POINTS:	-	0	2	0	2	Oligo.

COMMENTS:

1. Extremely low pH and alkalinity values observed. Cause of this is not known. It is not one of the typical high altitude ponds that are usually the first to show the impacts of acid rain. Low values were also observed in a 1938 Fish and Game survey.
2. No public access. Former town beach was marked with 'No Trespassing' signs.

DARRAH POND

LITCHFIELD



5 FT ISOBATHS

ROUGH BATHYMETRIC CHART
WSPCC - 1985
SOUNDED BY FATHOMETER

FIELD DATA SHEET

WATER BODY Darrah Pond TOWN Litchfield BY WSPCC

DATE COLLECTED 5 August 1985 WEATHER Sunny & warm

STATION	DEPTH (M)	TEMP. (°C)	*DISSOLVED OXYGEN	OXYGEN: % SATURATION			
DEEP SPOT	0.1	25.5	7.4	91%			
	1.0	24.7	7.3	88%			
	2.0	24.5	7.2	87%			
	3.0	24.4	7.3	88%			
	4.0	24.3	7.3	88%			
	5.0	24.3	7.4	89%			
	6.0	24.3	7.3	88%			
	7.0	24.3	7.2	87%			

SECCHI DISK (M) 7.6 V.O.B.

BOTTOM DEPTH (M) 7.6

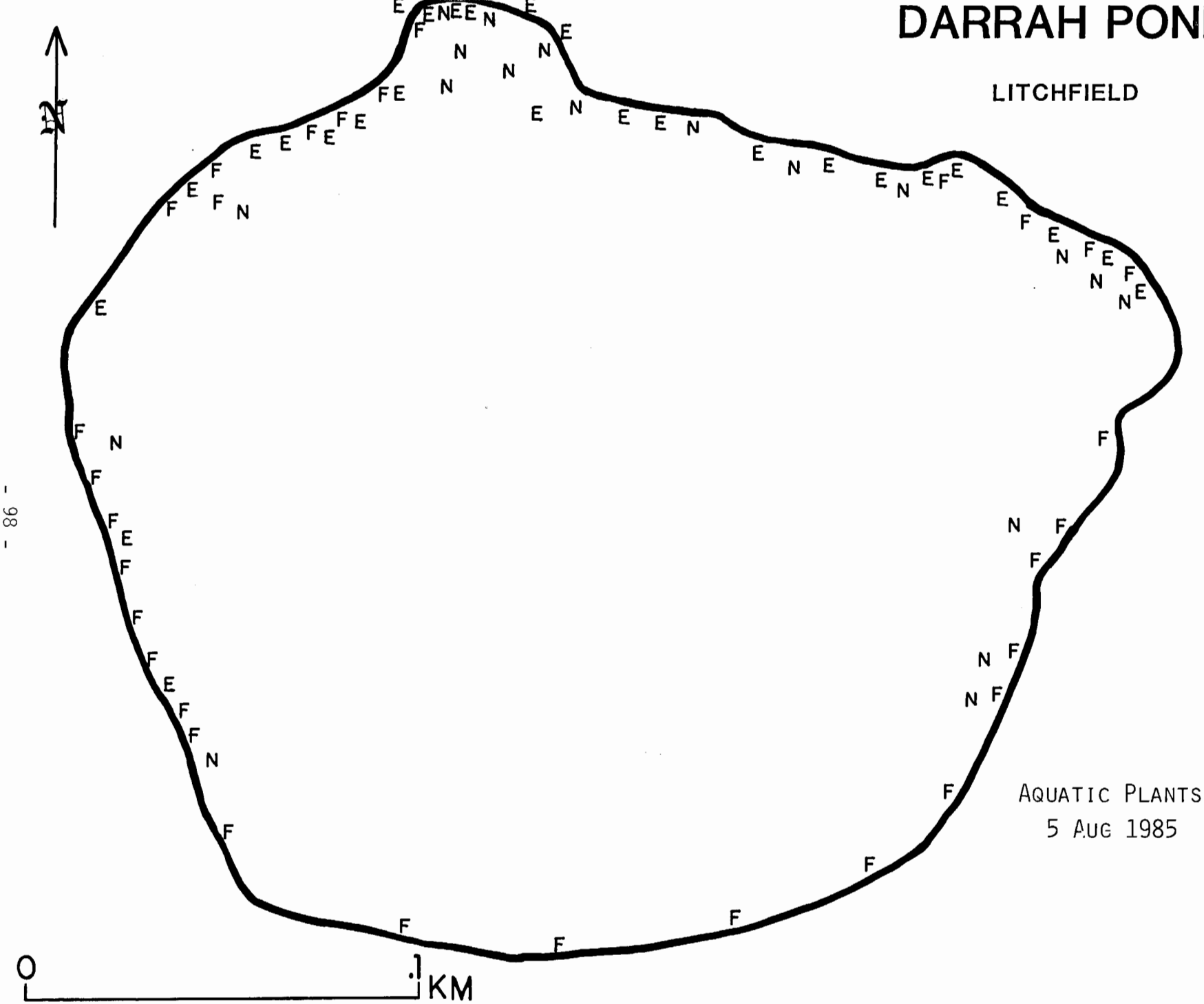
TIME 1115 hrs.

COMMENTS: 1. Secchi disk was "visible on bottom" at 7.6 meters.

* Dissolved oxygen values in mg/L

DARRAH POND

LITCHFIELD



AQUATIC PLANTS
5 AUG 1985

AQUATIC PLANT SURVEY

LAKE Darrah Pond TOWN Litchfield DATE 5 AUG 85 BY WSPCC

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
F	Nymphoides cordatum	Floating heart	Common
N	Nymphaea	White water lily	Common
E	Eriocaulon	Pipewort	Common

OVERALL ABUNDANCE Common

GENERAL OBSERVATIONS:

1. Much filamentous algae was observed along the bottom in large, billowing masses.

2. Peat moss was growing all along the northern shoreline.